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1/1

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,846	04/05/2004	Solomon Trainin	P-6407-US	3125
49444	7590	03/22/2006	EXAMINER	
PEARL COHEN ZEDEK LATZER, LLP			KING, JUSTIN	
1500 BROADWAY, 12TH FLOOR				
NEW YORK, NY 10036			ART UNIT	PAPER NUMBER
			2111	

DATE MAILED: 03/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/816,846	TRAININ, SOLOMON
	<b>Examiner</b>	<b>Art Unit</b>
	Justin I. King	2111

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 19 August 2004.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) 6-15, 19-22, 29-31 and 35-37 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-5, 16-18, 23-28 and 32-34 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) 1-37 are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. <u>3/10/05</u> .
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>4/5/04</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-5, 16-18, 23-28, and 32-34, drawn to synchronizing interrupt, classified in class 710, subclass 266.
  - II. Claims 6-15 and 29-31, drawn to prohibiting interrupt, classified in class 710, subclass 262.
  - III. Claims 19-22 and 35-37, drawn to delaying interrupt, classified in class 710, subclass 260.
  
2. Inventions I, II, and III are directed to related interrupt processing. The related inventions are distinct if the inventions as claimed do not overlap in scope, i.e., are mutually exclusive; the inventions as claimed are not obvious variants; and the inventions as claimed are either not capable of use together or can have a materially different design, mode of operation, function, or effect. See MPEP § 806.05(j). In the instant case, the invention as claimed are mutually exclusive.

Because these inventions are independent or distinct for the reasons given above and the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.

During a telephone conversation with Mark Cohen on 2/13/06 a provisional election was made without traverse to prosecute the invention of I, claims 1-5, 16-18, 23-28, and 32-34.

Affirmation of this election must be made by applicant in replying to this Office action. Claims 6-15, 19-22, 29-31, and 35-37 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 1-3 and 23-27 are rejected under 35 U.S.C. 102(a) as being anticipated by the submitted prior art “On Adaptive DLC Mechanisms for Fixed Broadband Wireless Networks” by Dravopoulos et al.

Referring to claims 1 and 23: Dravopoulos discloses synchronizing interrupts of a processor with signals from a wireless link synchronization unit (Figure 1, Dravopoulos discloses a wireless system, pages 640-641, Dravopoulos discloses data link handling includes controlling the timing and slots for each request/interrupt; Dravopoulos’ means to handle the request/interrupt is the processor; Dravopoulos’ means to store the pending request/interrupt for process is the storage). Hence, claim is anticipated by Dravopoulos.

Referring to claims 2, 24, and 27: Dravopoulos discloses tracking the time slots (page, 641, Dravopoulos’ means to track the slot is equivalent to the slot timer).

Referring to claims 3 and 25: Dravopoulos discloses scheduling interrupts of said processor in advance of slot signals issued by said wireless link synchronization unit (page 641, first paragraph, Dravopoulos discloses the Master/Slave scheduler for slots allocation).

Referring to claim 26: Claim is rejected with the same argument for claim 1; furthermore, Dravopoulos discloses an antenna (page 639, figure 1).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 4-5, 16, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over the submitted prior art “On Adaptive DLC Mechanisms for Fixed Broadband Wireless Networks” by Dravopoulos et al. in view of Suzuki (U.S. Patent No. 5,694,613).

Referring to claim 4: Dravopoulos’ disclosure is stated above; Dravopoulos does not disclose dividing a function into at least two or more segments wherein a segment may be

Art Unit: 2111

processed to completion by said processor within the time available in a slot. Suzuki discloses pipelining process. Suzuki teaches one to achieve a higher performance by dividing a function into at least two or more segments wherein a segment may be processed to completion by said processor within the time available in a slot (column 1, lines 22-24, breaking a complex, time consuming function into a series of simpler, shorter operations). Hence it would have been obvious to one having ordinary skill in the computer art at the time Applicant made the invention to adapt Suzuki's teaching onto Dravopoulos because Suzuki teaches one to achieve a higher performance by dividing a function into multiple operations.

Referring to claims 5 and 16: Since Suzuki teaches dividing any time-consuming function into a series of simpler and shorter operations for a higher performance, one with ordinary computer skill would apply Suzuki's teaching dividing a background function to achieve a higher performance.

Referring to claim 32: Claims is rejected as the same argument for claim 4. Furthermore, Suzuki's means for dividing the function is equivalent to the claimed controller; and since Suzuki discloses a wireless network, the interface between an access point and an access terminal is equivalent to the claimed network interface card.

8. Claims 17-18 and 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over the submitted prior art "On Adaptive DLC Mechanisms for Fixed Broadband Wireless Networks" by Dravopoulos et al. in view of Suzuki, and in further view of "Operating System Concepts" by Peterson et al..

Referring to claim 17: The disclosures of Dravopoulos and Suzuki are stated above; neither explicitly discloses permitting an interrupt of a processor by a command other than said background command during a subsequent slot and prior to the completion of processing of a predetermined number of said segments of said background command. Peterson, in his popular academic textbook, discloses the preemptive algorithm. Peterson teaches one to compare the newly arrived task's priority to the currently running task, and to preempt the currently running task if the newly arrived task has a higher priority (page 121, last paragraph, page 122, 1<sup>st</sup> paragraph). Hence, it would have been obvious to one having ordinary skill in the computer art at the time Applicant made the invention to adapt Peterson's teaching onto Dravopoulos and Suzuki because Peterson teaches one to ensure any time sensitive task be processed on time by preempting the currently running task with a request with a higher priority.

Referring to claim 18: Peterson discloses comparing priority.

Referring to claim 33: Claims is rejected as the same arguments for claim 16 and 17.

Referring to claim 34: Claims is rejected as the same argument for claim 18.

9. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over the submitted prior art "On Adaptive DLC Mechanisms for Fixed Broadband Wireless Networks" by Dravopoulos et al. in view of "Operating System Concepts" by Peterson et al..

Referring to claim 28: The disclosure of Dravopoulos is stated above; Dravopoulos does not explicitly disclose comparing a register to store an indication of a background function waiting to be processed.

Art Unit: 2111

Peterson, in his popular academic textbook, discloses the preemptive algorithm. Peterson teaches one to compare the newly arrived task's priority to the currently running task, and to preempt the currently running task if the newly arrived task has a higher priority (page 121, last paragraph, page 122, 1<sup>st</sup> paragraph). Peterson's means for storing the priority for comparison is equivalent to the claimed register. Hence, it would have been obvious to one having ordinary skill in the computer art at the time Applicant made the invention to adapt Peterson's teaching onto Dravopoulos and Suzuki because Peterson teaches one to ensure any time sensitive task be processed on time by preempting the currently running task with a request with a higher priority.

### ***Conclusion***

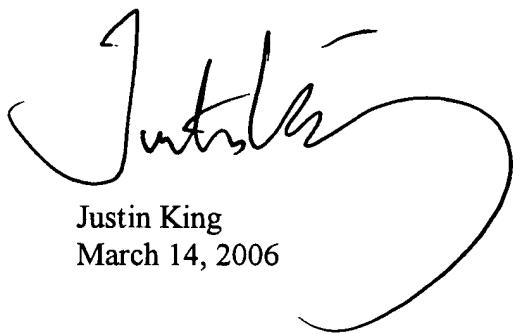
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin I. King whose telephone number is 571-272-3628. The examiner can normally be reached on Monday through Friday, 9:00 am to 5:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cottingham can be reached on 571-272-7079 or on the central telephone number, (571) 272-2100. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

Art Unit: 2111

system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lastly, paper copies of cited U.S. patents and U.S. patent application publications will cease to be mailed to applicants with Office actions as of June 2004. Paper copies of foreign patents and non-patent literature will continue to be included with office actions. These cited U.S. patents and patent application publications are available for download via the Office's PAIR. As an alternate source, all U.S. patents and patent application publications are available on the USPTO web site ([www.uspto.gov](http://www.uspto.gov)), from the Office of Public Records and from commercial sources. Applicants are referred to the Electronic Business Center (EBC) at <http://www.uspto.gov/ebc/index.html> or 1-866-217-9197 for information on this policy. Requests to restart a period for response due to a missing U.S. patent or patent application publications will not be granted.



Justin King  
March 14, 2006



JOHN R. COTTINGHAM  
PRIMARY EXAMINER